UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,238	12/31/2003	Hideo Miyazawa	031340	7102

23850	7590	09/07/2005

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER
TRAIL, ALLYSON NEEL

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		10/748,238	MIYAZAWA ET AL.
		Examiner	Art Unit	
		Allyson N. Trail	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-18_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,7 and 13_ is/are rejected.

7)☒ Claim(s) _2-6 and 8-18_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _31 December 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All   b)☐ Some *   c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
  Paper No(s)/Mail Date <u>8-2004, 12- 2003</u>

4)☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Double Patenting

1.   Claims 1, 7, and 13 are provisionally rejected under the judicially created

doctrine of obviousness-type double patenting as being unpatentable over claims

1, 4, 8, 11, 15, and 18 of copending Application No. 10/761,371 hereinafter '371.

Although the conflicting claims are not identical, they are not patentably distinct

from each other because both the current application and '371 include the same

bar-code reader that acquires signal strength of a reflected light that is reflected

from black and white bars from a bar-code, extracts edge data that changes the

signal strength from a black bar to a white bar and vice versa, ternarizes the

edge data that is extracted, and decodes bar-code characters by using a result of

the ternarizing. '371 further includes claimed subject matter disclosed in claim 7

of the current application, including a method of reading a bar-code, which

includes the same limitations of the bar-code reader discussed above. Lastly

'371 includes claimed subject matter disclosed in claim 13 of the current

application, including a bar-code reading computer program that includes a

plurality of computer readable instructions that control a bar-code reader that

accomplishes the above limitations. Specifically, the limitations of claim 1 of the

current application are disclosed in claims 1 and 4 of '371. Claim 7 of the current

application includes limitations disclosed in claims 8 and 11 of application '371.

Lastly, claim 13 of the current application includes limitations disclosed in claims

15 and 18 of application '371.

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1, 7, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by He et al (6,328,213).

He et al teaches the following in regards to claim 1, 7, and 13:

A barcode reader that acquires signal strength from scanning a barcode. The signal strength is obtained from the of light reflected from bars of the code. He et al further teaches an extracting unit that extracts edge data including a plurality of edges and the signal strength corresponding to changes from black to white, and vice versa. Additionally taught is the process of ternarizing the edge data that is extracted and decoding the barcode characters by using a result of the ternaizing. (Col. 1, lines 50-63).

"The system determines whether the histogram is a tri-modal histogram (step 2040). To do so, the system attempts to find spaces (i.e., x-axis positions that correspond to none of the edges) in the histogram that divide the histogram data into three equal-sized sections (e.g., sections 88a, 88b, and 88c in FIG. 7C), and, if successful, then tests whether the data in the sections substantially

conforms to the equation h1-h2=h2-h3 that is mentioned above and that is illustrated in FIG. 8. An edge of height h1 represents a transition between a wide ("saturated") light portion and a saturated dark portion (e.g., between portions 18br and 18bs of FIG. 2). An edge of height h2 represents a transition between a saturated light portion and a narrow ("unsaturated") dark portion (e.g., between portions 18bj and 18bk of FIG. 2), or between a saturated dark portion and an unsaturated light portion (e.g., between portions 18aq and 18ar of FIG. 2). An edge of height h3 represents a transition between an unsaturated light portion and an unsaturated dark portion (e.g., between portions 18ba and 18bb of FIG. 2). (Col. 6, lines 42-60).

Allowable Subject Matter

4.   Claims 2-6, 8-12, and 14-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5.   The following is an examiner's statement of reasons for allowance: The best prior art of record, taken alone or in combination, fails to specifically teach or fairly suggest the specific limitations disclosed in claims 2-6, 8-12, and 14-18 of the current invention. Prior art has teachings of barcode readers, methods of reading barcodes, and barcode reading computer programs providing instructions to acquire signal strengths of reflected light that is reflected from black and white bars, extract edge data that changes the signal strength from a black bar to a white bar, and vise versa, and ternarizes the edge data that is extracted. Prior art however fails to teach the barcode reader, barcode reading

method, and a barcode reading computer program each including a ternaizing

processor, which assigns a state 1, a state 0, and a state −1, that have

predetermined reference values respectively, to a plurality of module points in

continuity, assigns a least squared error to the amplitude of a module that is to

be linked to a path that connects each module point, as a path metric, and

ternaizes a state of a module point that is at the origin of a path linkage of a

survival path, taking a path for which a sum of path metrics that have gone

through a predetermined path becomes a minimum as a survival path. These

specific limitations are not found in prior art and moreover one of ordinary skill in

the art would not be motivated to come to the claimed invention.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure: Swartz et al (2005/0167507), McQueen et al

(2004/0084530), Lemelson et al (2003/0121980), Coleman et al (6,499,662),

Shearer (6,296,187), Iwaguchi et al (5,965,864),Akeda (5,801,369), and Knowles

et al (5,686,717).

7.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to *Allyson N. Trail* whose telephone number is

(571) 272-2406. The examiner can normally be reached between the hours of

7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The

fax phone number for this Group is (571) 273-8300.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**allyson.trail@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Allyson N. Trail
Patent Examiner
Art Unit 2876
September 1, 2005

JARED J. FUREMAN
PRIMARY EXAMINER